

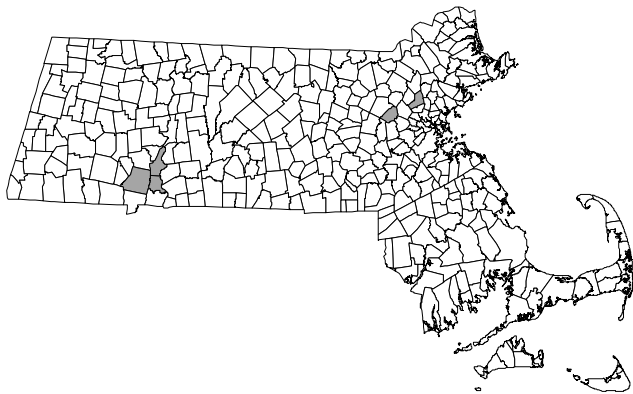


Natural Heritage & Endangered Species Program

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Description: The cornel-leaved aster (*Doellingeria infirma*) is a slender, erect, perennial herb of the aster family (Asteraceae). It grows from about one to three feet tall (4 to 11 decimeters) with a single, smooth, somewhat zig-zag stem. It has a somewhat flat-topped inflorescence of white “flowers,” which are actually composites (called “capitula”) of many smaller flowers. This species flowers from late July to September.

Aids to Identification: The cornel-leaved aster derives its Latin specific epithet “*infirmus*” from its slender stem, which is “weak” relative to stouter asters. The leaves of the weak aster are 2 to 5 inches (6 to 13 cm) long, and are elliptical in shape. The margins are “entire” (not toothed) and are smooth except for pubescent veins beneath. The leaves are few in number, are alternately arranged, and are essentially the same size along the length of the stem. The flower heads (capitula) are about 1 inch (3 cm) across with 5-12 broad, white “rays”. In many members of the aster family, what appear to be fringing petals are actually tiny flowers called “ray flowers” or “rays.” The capitula are arranged in a corymb-like (somewhat flat or round-topped) inflorescence. The fruit is a hairless achene (a small, dry fruit with a single seed) topped by two sets of bristles: a long inner whorl and a much shorter outer one.



Distribution in Massachusetts
1980-2006

Based on Records in Natural Heritage Database

Cornel-leaved Aster

Doellingeria infirma (Michx.) Greene
(*Aster infirmus* Michx.)

State Status: **Endangered**
Federal Status: None



Holmgren, Noel H. The Illustrated Companion to Gleason and Cronquist's Manual. NY Botanical Garden, 1998.

Similar species: There are several asters that superficially resemble the cornel-leaved aster, and therefore it is best to consult a technical manual when identifying asters. A few common, similar-looking white asters that may be separated easily from the cornel-leaved aster include the flat-topped aster (*Doellingeria umbellata*), and the toothed white-topped aster (*Sericocarpus asteroides*). The flat-topped aster is a larger plant (10-20 dm) of lowlands. It has more copious leaves that are much rougher than the smooth leaves of the cornel-leaved aster. In addition, the achenes of the flat-topped white aster are sparsely pubescent, while those of the cornel-leaved aster are glabrous. The toothed white-topped aster has toothed leaves, smaller flower heads, and pubescent fruit.

Habitat: Cornel-leaved aster has been found on non-acidic, dry to dry-mesic, rocky, wooded slopes in partial shade. Species often associated with this aster include hickories (*Carya ovata* and *C. tomentosa*), oaks (*Quercus rubra* and *Q. alba*), tick-trefoils (*Desmodium* spp.) and goldenrods (*Solidago* spp.). In Massachusetts, this aster usually is found growing in woods with an open shrub layer and a moderately open tree canopy.

Range: The cornel-leaved aster ranges from Massachusetts west to Ohio, south to South Carolina, Georgia, and Alabama.

Population Status in Massachusetts: The cornel-leaved aster is listed as Endangered under the Massachusetts Endangered Species Act. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. In Massachusetts, this aster has been reported from Hampden, Worcester, and Middlesex Counties. Only four stations of this species are currently known in Massachusetts. This species was once known from Rhode Island and Connecticut, but is now considered historic in both of those states. One reason for its rarity in Massachusetts, and throughout our region, is that the species is near the northern limit of its range.

Management Recommendations: As for many rare species, the exact needs for management of the cornel-leaved aster are not known. The following comments are based primarily on observation of populations in Massachusetts. Invasive exotic plant species of forest understories, such as Japanese barberry (*Berberis thunbergii*) or Common barberry (*Berberis vulgaris*), may compete with this aster for resources. Invasive species should be controlled where they compete with rare species. Animal browse, likely by deer or rabbit, has been observed on this species of aster. Fencing exclosures to prevent browse may benefit this aster at certain locations. Given that the species typically occurs in dry, rocky places, the role of fire in maintenance of the species habitat or in stimulating its seed to germinate should be investigated. While the cornel-leaved aster may benefit from some canopy thinning, it likely requires a partially shaded habitat, and hence the extremes of dense shade or drastic canopy clearing should be prevented.

Flowers Present

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Updated: October 2006